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December 11, 2025

Independent Communications Authority of South Africa
Attn: Mr. Davis Kgosimolao Moshweunyane & Mr. Manyaapelo Richard Makgotlho
350 Witch-Hazel Avenue, Eco Point Office Park
Centurion, Pretoria, South Africa

RE: Comments on the Second Draft National Radio Frequency Plan 2025

Amazon Leo[1], appreciates the opportunity to comment on the Independent Communications Authority of South Africa's ("ICASA") Second Draft National Radio Frequency Plan 2025.[2] Amazon Leo commends ICASA for its efforts to promote international harmonization and appreciates ICASA's consideration of Amazon Leo's comments on ICASA's prior April Draft National Radio Frequency Plan 2025. Amazon Leo respectfully requests that the ICASA make changes to the South African allocations and footnotes column for the 17.3-17.7 GHz frequency band to clarify that it is allocated to non-geostationary satellite orbit ("NGSO") Fixed-Satellite Service ("FSS") in both the space-to-Earth and Earth-to-space directions. Additionally, we continue to encourage the ICASA to develop a robust Earth Station in Motion ("ESIM") framework and support International Telecommunication Union ("ITU") World Radiocommunication Conference ("WRC") 2027 ("WRC-27") studies and agenda items that will further enable satellite services.

I. Background

Amazon Leo is deploying a global constellation of low-Earth orbit satellites to deliver affordable, high-speed broadband connectivity to unserved and underserved communities worldwide. In South Africa, Amazon Leo will also support ubiquitous connectivity by providing backhaul-type services to ISPs. Amazon Leo began launching its constellation of NGSO FSS satellites in low Earth orbit ("Amazon Leo System") in April 2025.[3] Since committing to invest over 10 billion U.S. dollars in the Amazon Leo System, Amazon Leo has made significant strides toward further deployment, including the continued

[1] *Kuiper Systems LLC (d/b/a "Amazon Leo") is a wholly owned subsidiary of Amazon.com Services LLC (collectively, "Amazon"). On November 13, 2025, Amazon replaced the Project Kuiper code name with Amazon Leo, its permanent brand for its satellite broadband network.*

[2] *See* Independent Communications Authority of South Africa, Notice Regarding the Second Draft National Radio Frequency Plan 2025 for Public Consultation, Government Gazette, Notice 3585 of 2025 (Nov. 7, 2025) ("Consultation").

[3] Amazon Leo successfully launched Project Kuiper's first 27 satellites on April 28, 2025. That mission was the first of more than 80 to deploy Project Kuiper's initial constellation. *See Kuiper mission updates: Kuiper constellation expands with fifth successful launch*, Amazon Leo (September 25, 2025), https://www.aboutamazon.com/news/innovation-at-amazon/project-kuiper-satellite-rocket-launch-progress-updates. Amazon Leo has now successfully launched over 150 satellites, with additional launches planned in the coming weeks and months. See *id.*

expansion of its terrestrial infrastructure and the unveiling of innovative customer terminals that will offer high performance in small form factors and at affordable price points. Amazon Leo's goal is to deliver service to select customers as part of a commercial beta, to roll out more widely as it launches more satellites and adds coverage and capacity to the system.

II. Comments on the Second Draft National Radio Frequency Plan 2025

Amazon Leo appreciates ICASA's updates to the Draft National Radio Frequency Plan, particularly the changes related to FSS ESIM operations in the Ka-band. Specifically, Amazon Leo supports the addition of FSS ESIM to the "Typical Applications" column of the Draft National Radio Frequency Plan for the 17.7-18.1 GHz frequency band to reflect the permitted operations of FSS ESIM.[4] Further, Amazon Leo applauds the inclusion of ITU-R Resolution 123 ("WRC-23") in the "Notes and Comments" column for frequency bands 17.7-18.6 GHz, 18.8-19.3 GHz, 19.7-20.2 GHz, 27.5-29.1 GHz, and 29.5-30 GHz.[5] These changes align South Africa's ESIM allocations with international norms, increasing regulatory certainty for satellite operators and facilitating the deployment of truly global systems. Accordingly, Amazon Leo welcomes ICASA's incorporation of these updates into the final National Radio Frequency Plan, enabling South African customers to have full access to the benefits of ESIM technologies, and to realize broader broadband connectivity benefits.

Amazon Leo notes that in the South African allocations and footnotes column for the **17.3-17.7 GHz** frequency band, the Draft National Radio Frequency Plan includes "(non-GSO) (Earth-to-space)." Given that this band is already allocated on primary basis to FSS—both GSO and NGSO—**in the space-to-Earth and Earth-to-space directions**, Amazon Leo recommends that ICASA delete the reference to "(non-GSO) (Earth-to-space)."

17.3-17.7 GHz FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	**17.3-17.7 GHz** FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B ~~(non-GSO) (Earth-to-space)~~ Radiolocation	Feeder links of GSO-satellite systems in the BSS [~~HIGH-DENSITYAPPLICATIONS IN THE FSS~~ High Density FSS(space-to-Earth)]	The band 17.3-17.7 GHz is part of the APP30A Plan (Feeder Links for BSS) for many SADC countries; refer to Annex B. The band 17.3-17.7 GHz is identified for HDFSS; Res.143 applies.	

Such a deletion would align the final National Radio Frequency Plan with the Table of Frequency Allocations in the ITU Radio Regulations, and avoid confusion about the allocation of the 17.3-17.7 GHz frequency band in South Africa, which permits NGSO FSS in both the space-to-Earth and Earth-to-space directions. It would also be consistent with the South African allocations and footnotes column for other frequency bands, including 17.7-18.1 GHz, which is allocated without distinguishing GSO and NGSO FSS.

III. Additional Steps to Support the Ubiquitous Deployment of ESIM Technology

As described in its comments to the April Draft National Radio Frequency Plan 2025, Amazon Leo respectfully encourages ICASA to take additional steps to support the ubiquitous deployment of ESIM

[4] Consultation at 586-591, 604-617.

[5] Consultation at 586-591, 604-617.

technology in the country. Specifically, Amazon Leo encourages ICASA to implement licensing and technical requirements that: (1) include land ESIM,[6] (2) allow for blanket or class licensing of ESIM terminals communicating with NGSO FSS systems, and (3) exempt from licensing foreign-registered ESIM that are onboard foreign vessels and aircraft visiting and transiting to and from South Africa so long as they are operated in accordance with the technical conditions of ITU-R Resolution 123 and are appropriately licensed and operated in the country of the vessel or aircraft registration.

IV. Preparation for WRC-27

As emphasized in its prior filing, Amazon Leo encourages ICASA to support studies and agenda items for WRC-27, which will facilitate the rapid deployment and global harmonization of satellite connectivity services.

Technical studies are underway at the ITU to inform discussions on GSO and NGSO spectrum sharing at WRC-27. The goal of the studies is to ensure that both GSO and NGSO satellite services can operate with the utmost spectral efficiency to maximize the capacity of these systems. Therefore, Amazon Leo respectfully urges ICASA, as part of its WRC-27 preparations, to support these studies for Annex 15 to the Working Party 4A Chair's Report[7] and WRC-27 Agenda Item 1.4, which, in part, examine the outdated rules governing spectrum sharing between NGSO and GSO systems. Updating the EPFD limits to reflect 25 years of NGSO technological progress and sharing capabilities would enable NGSO networks to reach their full potential in connecting unserved and underserved communities.

Amazon Leo also urges ICASA to support allocations for satellite services in the Q/V band and the proposal, detailed in WRC-27 Agenda Item 1.3, to allocate the frequency range 51.4-52.4 GHz to NGSO Earth-to-space communications. This 51.4-52.4 GHz frequency range was previously allocated for FSS operations on an exclusive basis,[8] and allocation to NGSO systems will be important for continued connectivity as other frequency bands experience congestion. Access to the Q/V-band frequencies, including 51.4-52.4 GHz, will expand NGSO service capacity, enabling faster and more reliable services for customers.

V. Conclusion

Amazon Leo is grateful for the opportunity to comment on the proposed amendments to the National Radio Frequency Plan 2025 and welcomes further engagement with ICASA on these important issues.

Respectfully submitted,

/s/ Madeleine M. Lottenbach
Madeleine Lottenbach
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Amazon Leo
On behalf of Kuiper Systems LLC

[6] Studies carried out by the CEPT have concluded that L-ESIM should "not raise any additional interference concern"[6] operating in the bands available for uncoordinated FSS Earth stations, because ESIM, just like uncoordinated FSS Earth stations, may operate in any location. ECC CEPT, ECC Report 217, p.6 (approved February 2015 and amended January 31, 2020), https://docdb.cept.org/download/1162.

[7] *See Technical Studies in Response to WRC-23 Minutes on Article 22 EPFD Limits Without any Regulatory Consequences [For Information]*, Annex 15 to Working Party 4A Chair's Report, Part 3 to Annex 15 to Document 4A/830-E (Draft Nov. 21, 2025).

[8] ITU-R Resolution 162 (WRC-15).